SEQUENCE LISTING

<110> Universitaet Zuerich

<120> In vivo model system for type-2 diabetes

<130> Universitaet Zuerich

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<170> PatentIn Ver. 2.1

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agc act tcg gca gcc cgg ctg gag tac tac gat acc gaa aag aag ttc   144
Ser Thr Ser Ala Ala Arg Leu Glu Tyr Tyr Asp Thr Glu Lys Lys Phe
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Ser Ser Arg Asp Gly Gly Phe Gly Ile Val Leu Glu Asn Glu Asn Asp
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Leu Arg Lys Trp Leu Asp Lys Leu Leu Val Leu Gln Arg Asn Ile Ala
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aat tcg aat gga aca gcg cac tca cct tat gac cac gtt tgg caa gtt    384
Asn Ser Asn Gly Thr Ala His Ser Pro Tyr Asp His Val Trp Gln Val
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gtc att caa aag aag ggt att tcg gag aaa gtt gga atc acc gga acc    432
Val Ile Gln Lys Lys Gly Ile Ser Glu Lys Val Gly Ile Thr Gly Thr
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tac cac tgt tgc ctt act tca aaa tcc ctg aca ttc gtg tgc att gga    480
Tyr His Cys Cys Leu Thr Ser Lys Ser Leu Thr Phe Val Cys Ile Gly
145                 150                 155                 160


ccg gag aag acg ccc aat ggc gag gat cgc gtt gcg agc att gaa ata    528
Pro Glu Lys Thr Pro Asn Gly Glu Asp Arg Val Ala Ser Ile Glu Ile
                165                 170                 175


ctt ttg acc acg atc agg cga tgc ggt cat gca tcc cca caa tgt ata    576
Leu Leu Thr Thr Ile Arg Arg Cys Gly His Ala Ser Pro Gln Cys Ile
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ttc tac gtg gaa ctt ggc cgc caa agt gtc ttg gga tct ggt gat ctg    624
Phe Tyr Val Glu Leu Gly Arg Gln Ser Val Leu Gly Ser Gly Asp Leu
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tgg atg gag acg gat aac gca gct att gct act aat atg cac aac acg    672
Trp Met Glu Thr Asp Asn Ala Ala Ile Ala Thr Asn Met His Asn Thr
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ata ctg agc gct atg tca gcc aaa aca gag tcg aac acg aat tta ata    720
Ile Leu Ser Ala Met Ser Ala Lys Thr Glu Ser Asn Thr Asn Leu Ile
225                 230                 235                 240


aac gtt tat cag aat aga cct gac tta agt cac gag ccc atg aga aag    768
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ata caa aat agt caa aac tct ctc gaa ttg cgc agc tgc agt tcg ccc    864
Ile Gln Asn Ser Gln Asn Ser Leu Glu Leu Arg Ser Cys Ser Ser Pro
                275                     280                     285

cat aac tat ggt ttc ggc aga gag aga tgc gat agc tta cca acc aga    912
His Asn Tyr Gly Phe Gly Arg Glu Arg Cys Asp Ser Leu Pro Thr Arg
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aat gga acc cta agc gag tcc agc aat caa acg tac ttt ggt tcc aac    960
Asn Gly Thr Leu Ser Glu Ser Ser Asn Gln Thr Tyr Phe Gly Ser Asn
305                     310                     315                 320

cat gga ctg cga tcc aat act ata tct ggc atc cgt ccg cac tca acc   1008
His Gly Leu Arg Ser Asn Thr Ile Ser Gly Ile Arg Pro His Ser Thr
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aac aag cat agt aat agt cca acg ttc acc atg cca tta aga tgc tca   1056
Asn Lys His Ser Asn Ser Pro Thr Phe Thr Met Pro Leu Arg Cys Ser
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gaa tcc gaa gag tca tca att agt gtc gat gaa tcc gac gac aac ggc   1104
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agt ttt agc cac tac aga tta aac acg cgg tca tct gag acg gca att   1152
Ser Phe Ser His Tyr Arg Leu Asn Thr Arg Ser Ser Glu Thr Ala Ile
                370                     375                     380

cct gag gaa aac att gat gac ttt gcc agt gcg gaa tta ttt agc aaa   1200
Pro Glu Glu Asn Ile Asp Asp Phe Ala Ser Ala Glu Leu Phe Ser Lys
385                     390                     395                 400

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Val Thr Glu Gln Asn Val Ser Asp Glu Asn Tyr Ile Pro Met Asn Pro
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gtc aat cct acc gat gct atc cat gaa aag gag aag gct gat atg cag   1296
Val Asn Pro Thr Asp Ala Ile His Glu Lys Glu Lys Ala Asp Met Gln
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Arg Leu Glu Asp Ala Ser Leu His Phe Asn Phe Pro Glu His Ala Ser
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Arg Pro Ile Arg Ala Tyr Ser Ile Gly Asn Lys Val Glu His Leu Lys
465                 470                 475                 480


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cgc gtg cga gcc tac tcg gtt ggc tcc aaa tcg aag ata ccg cgc tgc   1536
Arg Val Arg Ala Tyr Ser Val Gly Ser Lys Ser Lys Ile Pro Arg Cys
                500                 505                 510


gac ctg cag cga gtg gtc ctc gtg gag gac aat aaa cat gag ttc aca   1584
Asp Leu Gln Arg Val Val Leu Val Glu Asp Asn Lys His Glu Phe Thr
                515                 520                 525


gcg aat agg agt cag agt agc att acc aag gaa gga acc agc tat ggc   1632
Ala Asn Arg Ser Gln Ser Ser Ile Thr Lys Glu Gly Thr Ser Tyr Gly
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agc agt gcc aat cga caa aag aag tcc aca agt gct cca ctc ctc agt   1680
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ctg aag aac cag ata aac tcc gac cga atg agt gac tta atg gaa att   1728
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gat ttt tca caa gca acc aat ttg gaa aag cag aag ttc atc aag aat   1776
Asp Phe Ser Gln Ala Thr Asn Leu Glu Lys Gln Lys Phe Ile Lys Asn
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aat gaa att ccg aaa tac att gaa aac gtg ttc cca aaa gcc ccg cga   1824
Asn Glu Ile Pro Lys Tyr Ile Glu Asn Val Phe Pro Lys Ala Pro Arg
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acg gat agc tcc agc cta act ctg cac gcc aca agt caa aag gac att   1872
Thr Asp Ser Ser Ser Leu Thr Leu His Ala Thr Ser Gln Lys Asp Ile
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Tyr Leu Glu Met Lys Pro Val Gly Asn Gly Tyr Thr Pro Ser Ser Asn
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tgc ctg cca atg aaa gtg gag aaa ctc aag cta tcc gac tat cag aca   2016
Cys Leu Pro Met Lys Val Glu Lys Leu Lys Leu Ser Asp Tyr Gln Thr
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gca ccg cca ctc acc gca aca gcc gca cca gtg cac gat tta aac aaa   2064
Ala Pro Pro Leu Thr Ala Thr Ala Ala Pro Val His Asp Leu Asn Lys
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att agc aca tac aat ata tcc gct gag aaa tgg aga gaa cag ccc agc   2112
Ile Ser Thr Tyr Asn Ile Ser Ala Glu Lys Trp Arg Glu Gln Pro Ser
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aga agc gag gaa aag aag tcg aac tcg cca ttg aat gac aac acc ttt   2160
Arg Ser Glu Glu Lys Lys Ser Asn Ser Pro Leu Asn Asp Asn Thr Phe
705   710   715   720

agc tcg aaa ccc aca aat gtc gag agt aca agc aaa agc cat gat gtt   2208
Ser Ser Lys Pro Thr Asn Val Glu Ser Thr Ser Lys Ser His Asp Val
                    725   730   735

cat tca gca aat caa att gat tgc gag aaa gtg tgc gcg cag agc agc   2256
His Ser Ala Asn Gln Ile Asp Cys Glu Lys Val Cys Ala Gln Ser Ser
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Asp Lys Leu Asn Asn His Leu Ala Asp Lys Ile Val Glu Asn Asn Asn
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ttg gat ata ggc ggg cat gag gaa aag aag ttg gtt cat tcg ata agc   2352
Leu Asp Ile Gly Gly His Glu Glu Lys Lys Leu Val His Ser Ile Ser
                    770   775   780

agc gaa gac tac aca caa atc aag gac aaa tcg aat gat ttc aca aaa   2400
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785   790   795   800

ttt aac gaa gcc ggc tac aaa att ctg caa att aaa agc gac agc tca   2448
Phe Asn Glu Ala Gly Tyr Lys Ile Leu Gln Ile Lys Ser Asp Ser Ser
                    805   810   815

ctc atc tca tcg aag cta tac caa aag ggt ata cac aag gat aac ttg   2496
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gag cgt tcg cag aga ctt aca gag agt gtg aat acg att ccc gat aat    2544
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gcc acc gcc acc gcg gtg agc agc agc tca ctc acc aaa ttc aat ata    2592
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aat tca gca aag cca gcc gcc gcc gcc gat tcg cgt agc act ggc aca    2640
Asn Ser Ala Lys Pro Ala Ala Ala Ala Asp Ser Arg Ser Thr Gly Thr
865                    870                    875                    880

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Asp Pro Ser Thr Pro Gln Asn Ile Leu Gln Ile Lys Asp Leu Asn Phe
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ccc tca agg tcg tcg tct cgc ata tcc cag ccg gag ctg cac tac gcc    2736
Pro Ser Arg Ser Ser Ser Arg Ile Ser Gln Pro Glu Leu His Tyr Ala
                900                    905                    910

agc cta gat ctt ccc cat tgc agt ggc caa aat cca gct aaa tac ctg    2784
Ser Leu Asp Leu Pro His Cys Ser Gly Gln Asn Pro Ala Lys Tyr Leu
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aag aga gga tca cgc gaa tcg ccg ccg gtg tcc gca tgc ccg gag gat    2832
Lys Arg Gly Ser Arg Glu Ser Pro Pro Val Ser Ala Cys Pro Glu Asp
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Gly Asn Thr Tyr Ala Lys Ile Asp Phe Asp Gln Ser Asp Ser Ser Ser
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Ser Ser Arg Asp Gly Gly Phe Gly Ile Val Leu Glu Asn Glu Asn Asp
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Val Ile Gln Lys Lys Gly Ile Ser Glu Lys Val Gly Ile Thr Gly Thr
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Tyr His Cys Cys Leu Thr Ser Lys Ser Leu Thr Phe Val Cys Ile Gly
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Pro Glu Lys Thr Pro Asn Gly Glu Asp Arg Val Ala Ser Ile Glu Ile
                165   170   175

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Phe Tyr Val Glu Leu Gly Arg Gln Ser Val Leu Gly Ser Gly Asp Leu
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Trp Met Glu Thr Asp Asn Ala Ala Ile Ala Thr Asn Met His Asn Thr
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Asn Lys His Ser Asn Ser Pro Thr Phe Thr Met Pro Leu Arg Cys Ser
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Val Thr Glu Gln Asn Val Ser Asp Glu Asn Tyr Ile Pro Met Asn Pro
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Phe Asn Lys Arg Leu Gly His Leu Asn Asp Thr Gly Gln Asn Pro Asn
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Asp Leu Gln Arg Val Val Leu Val Glu Asp Asn Lys His Glu Phe Thr
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Asp Phe Ser Gln Ala Thr Asn Leu Glu Lys Gln Lys Phe Ile Lys Asn
                580   585   590

Asn Glu Ile Pro Lys Tyr Ile Glu Asn Val Phe Pro Lys Ala Pro Arg
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Thr Asp Ser Ser Ser Leu Thr Leu His Ala Thr Ser Gln Lys Asp Ile
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Asp Lys Leu Asn Asn His Leu Ala Asp Lys Ile Val Glu Asn Asn Asn
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Ser Glu Asp Tyr Thr Gln Ile Lys Asp Lys Ser Asn Asp Phe Thr Lys
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Phe Asn Glu Ala Gly Tyr Lys Ile Leu Gln Ile Lys Ser Asp Ser Ser
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Ser Leu Asp Leu Pro His Cys Ser Gly Gln Asn Pro Ala Lys Tyr Leu
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13

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14

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15

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